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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,969	07/28/2003	Wojtek Halliop	2144.038USU	4083

7590 07/25/2006

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EXAMINER	
PARSONS, THOMAS H	

ART UNIT	PAPER NUMBER
1745	

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/627,969	HALLIOP ET AL.	
	Examiner	Art Unit	
	Thomas H. Parsons	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) *13-44* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☒ Claim(s) *8-12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 13-40 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention/species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 18 May 2006.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the instant specification is approximately 165 words in length. Accordingly, the Examiner suggests amending the abstract as appropriate to within the range of 50 to 150 words.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sing et al. (5,928,805), as evidenced by Hornburg et al. (5,981,096).

Claim 1: Singh et al. disclose a method of operating a fuel cell including an anode, a cathode, a first passage, and a second passage, wherein the anode is disposed in the first passage and the cathode is disposed in the second passage, comprising: (i) producing a non-explosive gaseous feed (abstract) consisting of (i) at least one oxidizable component having a greater tendency to undergo oxidation relative to the anode (Singh et al. disclose hydrocarbons which is the same as that instantly disclosed as an oxidizable component having a greater tendency to undergo oxidation relative to the anode), and (ii) a remainder, wherein the remainder is the predominant component in the gaseous feed and consists essentially of water vapor (water); and (ii) introducing the non-explosive gaseous feed to the first passage to form a first gaseous stream flowing through the first passage when the anode realizes a temperature (i.e. 350 °C, which is similar to the temperature instantly disclosed) effective to facilitate deteriorative oxidation of the anode in the presence of an oxidizing agent.

As to the recitation "the remainder is the predominant component in the gaseous feed", because the gaseous feed of Singh et al. is a disclosed as a non-explosive gas and has a composition (i.e. a hydrogen and water gas mixture (col. 1: 25)) similar to what is

instantly disclosed, it obviously would exist as the predominant component in the gaseous feed.

Although not disclosed, one of ordinary skill in the art of fuel cells at the time the invention was made would know that solid oxide fuel cells include an anode, a cathode, a first passage, and a second passage, wherein the anode is disposed in the first passage and the cathode is disposed in the second passage as evidenced by Hornburg et al. (5,981,096).

Claim 2: Because the gaseous feed of Singh et al. is disclosed as non-explosive and has a composition (i.e. a hydrogen and water gas mixture (col. 1: 25)) similar to what is instantly disclosed, it obviously would provide a concentration of the water vapor greater than 50% by volume based on the total volume of the gaseous feed.

Claim 3: Because the gaseous feed of Singh et al. is disclosed as non-explosive and has a composition (i.e. a hydrogen and water gas mixture (col. 1: 25)) similar to what is instantly disclosed, it obviously would provide an oxidizable component having a less than the minimum concentration necessary to render the gaseous feed potentially explosive at the effective temperature.

Claim 4: Because the gaseous feed of Singh et al. is disclosed as non-explosive and has a composition (i.e. a hydrogen and water gas mixture (col. 1: 25)) similar to what is instantly disclosed, it obviously would provide an oxidizable component having a concentration less that the lower flammability limit of the at least one oxidizable component.

Claim 5: Because the gaseous feed of Singh et al. is disclosed as non-explosive and has a composition (i.e. a hydrogen and water gas mixture (col. 1: 25)) similar to what

is instantly disclosed, it obviously would provide an oxidizable component having a concentration effective to mitigate deteriorative oxidation of the anode.

Claim 6: Because the gaseous feed of Singh et al. is disclosed as non-explosive and has a composition (i.e. a hydrogen and water gas mixture (col. 1: 25)) similar to what is instantly disclosed, it obviously would provide an oxidizable component having a concentration effective to substantially prevent deteriorative oxidation of the anode.

Claim 7: Singh et al. disclose that the at least one oxidizable component is selected from the group consisting of hydrogen and hydrocarbons.

Allowable Subject Matter

5. Claims 8-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for Indicating Allowable Subject Matter

6. The following is a statement of reasons for the indication of allowable subject matter:

The claimed invention comprises evaporating an aqueous mixture consisting essentially of water and the at least one oxidizable component to produce the gaseous feed.

In contrast, Singh et al. mix hydrogen with water vapor to produce a gaseous feed but are not concerned with any pretreatment of the gaseous feed. Accordingly claim 8

and claims 9-12, which are dependent thereon, are patentably distinct from the prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H. Parsons whose telephone number is (571) 272-1290. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thomas H Parsons
Examiner
Art Unit 1745

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PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER